

REMARKS

Favorable reconsideration is respectfully requested in light of the following remarks, wherein Claim 1 is amended. Currently, Claims 1-16 are pending in the present application.

As an initial matter, Applicant expresses gratitude for the indication of allowable subject matter with regard to Claims 14-16. In addition, Applicant expresses gratitude to Examiner Thompson for the courtesies extended Applicant's attorney during the recent telephone interview. During the interview, certain amendments to Claim 1 were discussed, which amendments the Examiner agreed would define over the art of record. As a result, Applicant is amending Claim 1 consistent with that agreement.

Claims 1 and 3-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,305,830 to *Wittrisch*. Claims 1 and 8 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,497,281 to *Vann*. Claims 1 and 7 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,729,206 to *Divens*. Claims 1, 2 and 9-13 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,904,840 to *Kostelnicek*.

Independent Claim 1 recites a portable drill hole measuring device comprising a frame; at least one sensor; an elongated transmission element connected to the sensor; at least one transfer device, by which the transmission element can be moved longitudinally in at least one direction for moving the sensor in the drill hole; an elongated protective element comprising a lower part and an upper part, the lower part of the protective element is designed such that it can be inserted partly into the drill hole, and wherein the sensor is arranged to be moved into the protective element by means of the transfer device. The sensor is arranged to be moved outside the lower

part of the protective element for performing measurement of a drill hole.

Independent Claim 1 is amended to clarify that the frame includes a surface mounted protective element. In addition, Claim 1 is amended to clarify that the transfer device is connected to the frame. Finally, Claim 1 recites that the sensor is arranged to moved outside the lower part of the protective element into an uncased drill hole. None of the art of record disclose these patentable features.

For example, *Wittrisch* discloses equipment for well drilling. The drilling equipment includes heavy surface machinery in order to manage a down-hole drilling machine. The well drilling machinery includes, for example, a boring tower (Figures 1 - 2A) and a drill string (2), the upper end of which is connected to a drilling fluid passage (14) so that drilling fluid can be fed to the down-hole motor, column 4, lines 61-64. Thus, *Wittrisch* does not disclose a portable measuring device comprising a surface mounted elongated protective element.

In *Wittrisch*, the drill string (2) is inside the well bore. An upright sub (15) is fastened to the drill string (2). The sub (15) is lowered entirely inside the well bore and it is supported against the well bore surfaces. In contrast, independent Claim 1 defines the protective element can be inserted only partly into the drill hole. In addition, independent Claim 1 recites that the sensor is moved outside the lower part of the protective element for performing measurement into an uncased drill hole. In *Wittrisch*, there is a sensor (4), which is all the time inside the drill string (2).

Finally, *Wittrisch* fails to disclose a portable measuring device. Instead it discloses equipment for well drilling. The drilling equipment includes heavy surface machinery in order to manage a down-hole drilling machine. One essential component in such machinery is a

boring tower, which is shown in Figures 1, 1A, 2, 2A and 5. *Wittrisch* does not disclose anywhere a portable measuring device. Accordingly, *Wittrisch* fails to disclose the patentable features of independent Claim 1.

Vann also fails to disclose the patentable features of independent Claim 1. *Vann* discloses improvements in down-hole production pumps and operating systems for pumping fluids from boreholes, column 1, lines 9-11, and column 3, lines 34-38. *Vann* does not disclose a portable drill hole measuring device including a frame having a surface mounted elongated protective element.

The system of *Vann* includes several indicators and sensors in the down-hole pumping devices in order to control the production pumping effectively, column 3, lines 38-52, and column 4, lines 51-59. Because the purpose is to continuously monitor the production pumping, the pumping system is provided with a fixed monitoring system. There is no need for a portable drill hole measuring device in the *Vann* system.

Furthermore, in *Vann*, sensors (42, 42') are attached on a plunger (22), column 8, lines 31-34. The plunger is inside a pumping barrel (21), as is shown in Figure 1. The sensors sense temperature, pressure and conductivity of fluids inside the pumping barrel (21) and the measuring result is used to control the pumping, column 8, lines 35-38, and column 16, lines 14-21. As such, *Vann* does not disclose a portable drill hole measuring device and that the sensors are not for measuring drill hole but they are for monitoring the pumping.

Moreover, independent Claim 1 recites that the sensor is moved outside the lower part of the protective element for performing measurement in an uncased drill hole. In *Vann*, the

sensors are all the time inside the pumping barrel, and are not in an uncased drill hole.

Accordingly, *Vann* fails to disclose the patentable features of independent Claim 1.

Likewise, *Divens* fails to disclose the patentable features of independent Claim 1. *Divens* discloses a portable water level meter, column 1, lines 65-66. However, the level meter of *Divens* does not disclose any elongated protective element inside which a sensor (30) could be moved out.

Instead, *Divens* teaches to insert the sensor, attached to a cable, inside a water level monitoring pipe (82) of the well (80), as is mentioned on column 2, lines 45-46. The pipe is not part of the portable level meter but it is fixedly connected to the water well. Figure 1 clearly shows that the portable level meter does not include any elongated protective element.

Moreover, *Divens* teaches to move the sensor inside the motoring pipe of the water well during measuring. Thus, the sensor is not moved outside the lower part of the protective element for performing measurement in an uncased drill hole, as is claimed in amended Claim 1 of the present application. Accordingly, *Divens* fails to disclose the patentable features of independent Claim 1.

Finally, *Kostelnicek* fails to disclose the patentable features of independent Claim 1. *Kostelnicek* discloses a drilling equipment comprising a drilling derrick (14) for lowering drilling strings (12) during drilling, column 2, lines 52-57. The system also includes an instrument (21) for measuring subsurface drilling conditions during drilling operations, column 3, lines 18-20. The instrument is mounted directly in the drilling string or the instrument is lowered into the drill string, column 4, lines 3-6, and Figure 1. Thus, *Kostelnicek* does not disclose a portable drill hole measuring device including a frame having a surface mounted elongated protective element.

Instead, it discloses a drilling system and measuring of drilling by means of the instrument inside the drilling equipment.

Moreover, in *Kostelnicek* the instrument is fixed to the drill string or it is lowered inside the drill string, whereby the instrument is not moved outside the lower part of the protective element for performing measurement in an uncased drill hole, as claimed in independent Claim 1 of the present application. Accordingly, *Kostelnicek* fails to disclose the patentable features of independent Claim 1.

For at least the foregoing reasons, it is submitted that the portable drill hole measuring device of independent Claim 1, and the claims depending therefrom, are patentably distinguishable over the applied documents. Accordingly, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, it is respectfully requested that the undersigned be contacted at the number indicated below.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required,

including any required extension of time fees, or credit any overpayment to Deposit

Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR
EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,

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